

REMARKS:

In the foregoing amendments, claims 1 and 3 were amended by further defining that a gap is provided between the fuel injection nozzle and the fuel passage, along the lines described in the first paragraph of page 15 and elsewhere in applicant's specification disclosure. An editorial change was made to claim 5, which now defines that inert material supply passage communicates with a holding portion for holding the inert material, and that the fuel from the fuel injection nozzle passes through the holding portion, when the fuel is injected toward the inert material supplied from the inert material supply passage.

Claim 7 was canceled. Claims 10 and 11 were added to the application and define that the fuel injection nozzle includes an injection port and the fuel passage includes a fuel inlet port at an end thereof, and that the gap is provided at least between the injection port and the fuel in that port, such as shown in figure 4A and elsewhere in applicant's specification disclosure. After the foregoing amendments, claims 1-6 and 8-11 are pending in the application. Claims 1-4 were rejected, and claims 5, 6 and 9 were allowed. Claim 8 was objected to as depending from a rejected claim, while containing allowable subject matter. Accordingly, claims 1-4, 10 and 11 remain in the application for consideration by the examiner.

Claims 1 and 3 were rejected under 35 U.S.C. §102(b) as being anticipated by JP 11-030164 of Imamichi *et al.* (JP '164). Claims 2 and 4 were

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rejected under 35 U.S.C. §103(a) as being unpatentable over JP '164 in view of JP 2668026 (JP '026). These rejections were set forth on pages 2 and 3 of the Official action. Applicant respectfully submits that the inventions defined in claims 1-4, 10 and 11 are patently distinguishable from the teachings of JP '026 and/or JP '164 within the meaning of 35 U.S.C. §102(b) or 35 U.S.C. §103(a).

It appears that JP '164 proposes separately injecting fuel spray 5 and fluid spraying 7, as shown in Fig. 1 therein, into a combustion chamber. Such teachings appear to correspond to the related art method 2) discussed on page 4, lines 17-20, of applicant's specification disclosure, and therefore, these teachings suffer the same deficiencies of this method as discussed in the present specification disclosure. Namely, the fuel and water are rarely disbursed uniformly in the combustion chamber. As shown, for example, in figure 1 of JP '164, a separate fluid spray 7 and fuel spray 5 result from the structure shown therein. This causes a local combustion field where the particles of the fuel are not microscopically covered with inert vapor, which results in an increase in the temperature to a high level within this local combustion field. As a result, the formation of nitrogen oxides cannot be sufficiently diminished.

In the arrangements defined in applicant's claims and 1 and 3, a gap is provided between the fuel injection nozzles and the fuel passage that provide a controlled operation for varying a mixing ratio of fuel to inert material (i.e.,

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water) arbitrarily in accordance with the magnitude of a load in a short period of time, thereby diminishing the formation of nitrogen oxides. Perhaps, this gap can be best visualized in figure 4A of the present application, between the fuel injection nozzle 8 and the fuel passage 17. The teachings of JP '164 do not remotely contemplate or suggest the arrangement of a gap between the fuel injection nozzle and the fuel passage, as required in claims 1 and 3. Therefore, applicant respectfully submits that the presently claimed invention is patentably distinguishable from the teachings of JP '164 for at least these reasons.

New claims 10 and 11 further define that the fuel injection nozzle includes an injection port and the fuel passage includes a fuel inlet port at an end thereof, and that the gap is provided at least between the injection port and the fuel inlet port, which arrangement and structure are also not contemplated or suggested by the teachings of JP '164. The teachings of JP '026 do not cure or rectify the aforesaid deficiencies of JP '164.

Therefore, applicant respectfully requests that the examiner reconsider and withdraw the rejection of claims 1-4 over JP '164 and JP '026 as set forth in the outstanding Office action.

Based on the above, a formal allowance of claims 1-4, 10 and 11, together with allowed claims 5, 6, and 9 and allowable claim 8, is respectfully requested. While it is believed that all the claims in this application are in condition for allowance, should the examiner have any comments or questions,

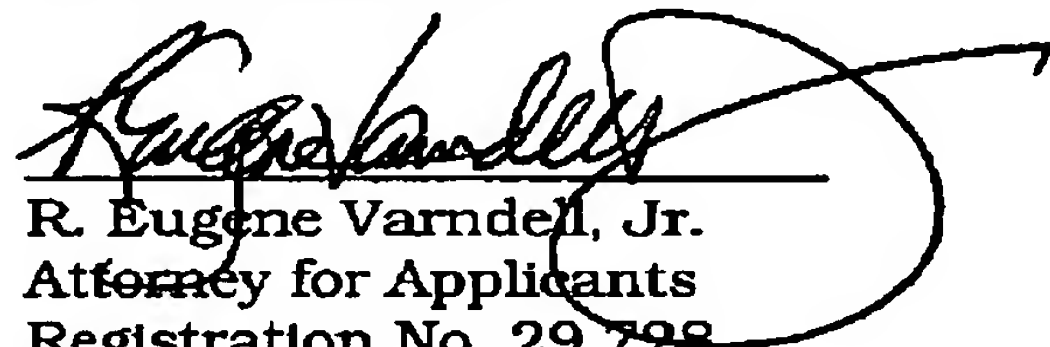
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it is respectfully requested that the undersigned be telephoned at the below listed number to resolve any outstanding issues.

In the event this paper is not timely filed, applicant hereby petitions for an appropriate extension of time. The fee therefor, as well as any other fees which may become due, may be charged to our deposit account No. 50-1147.

Respectfully submitted,
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

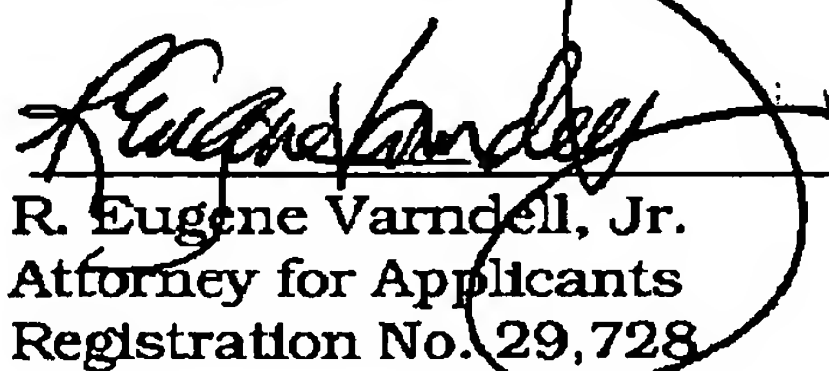
In re the application of:

Inventor(s) : Kazutaka HATTORI *et al*
Serial Number : 10/625,725
Filed : July 24, 2003
For : FUEL INJECTION SYSTEM FOR DIESEL ENGINES
Examiner : Hyder Ali
Group Art Unit : 3747

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I hereby certify that this correspondence (Response under 37 C.F.R. § 1.111, which totals 10 pages including this certificate) is being facsimile transmitted to the Patent and Trademark Office (facsimile No. 571-273-8300) on May 15, 2006.

Respectfully submitted,
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